

We claim:

1. An earth removal apparatus, comprising:
a first body portion;
a second body portion at least partially receivable within the first body portion;
a profile formed on an outer surface of the second body portion; and
a cutting member engaged with the profile, wherein the profile is adapted to maintain the cutting member on the profile during operation.
2. The earth removal apparatus of claim 1, wherein the profile comprises at least two intersecting faces, wherein one of the faces provides a support against rotation of the cutting member.
3. The earth removal apparatus of claim 1, wherein the profile substantially prevents movement of the cutting member in the profile.
4. The earth removal apparatus of claim 1, wherein the cutting member comprises a first end and a second end, wherein the second end is selectively detachable from the profile.
5. The earth removal apparatus of claim 4, wherein the second end is attached to the second body portion.
6. An earth removal apparatus, comprising:
a drillable body portion;
at least one profile formed on an outer surface of the drillable body portion, the at least one profile including at least two intersecting faces, wherein one of the faces includes a projection thereon; and
a blade matingly engageable with the at least one profile.

7. The earth removal apparatus of claim 6, further comprising a sleeve disposed around a portion of the drillable body portion.
8. The earth removal apparatus of claim 6, wherein the at least one profile extends into an outer surface of the sleeve, the blade additionally received in the at least one profile in the sleeve.
9. The earth removal apparatus of claim 6, wherein the projection is rectangular in cross section, and the blade includes a slot therein for receiving the projection.
10. The earth removal apparatus of claim 6, wherein the at least one profile is machined into the drillable body portion.
11. The earth removal apparatus of claim 6, wherein the blade is bonded to the at least one profile.
12. The earth removal apparatus of claim 6, further comprising a filler disposed between the blade and the at least one profile.
13. The earth removal apparatus of claim 6, wherein the at least one profile includes opposed linear sections thereof, the linear sections offset from one another by an included angle of less than 90 degrees.
14. The earth removal apparatus of claim 6, further including a preform disposed in the drillable body portion, the preform having the at least one profile therein.
15. The earth removal apparatus of claim 6, wherein the drillable body portion further includes one or more passages therethrough.

16. The earth removal apparatus of claim 15, further including a passage closure member.
17. The earth removal apparatus of claim 6, wherein the profile comprises a notch.
18. The earth removal apparatus of claim 6, further comprising a sleeve.
19. The earth removal apparatus of claim 18, wherein the drillable body portion comprises aluminum.
20. A drill bit, comprising:
 - a first body portion;
 - a drillable second body portion;
 - at least one profile formed integral with at least one of the first body portion and the drillable second body portion, the at least one profile having at least two opposed segments having a discernable orientation;
 - a cutting member received in the at least one profile and having the discernable orientation; and
 - the discernable orientation including an included angle between the opposed segments of less than ninety degrees.
21. The drill bit of claim 20, wherein:
 - the cutting member includes a segmented profile having a slot therein;
 - the at least one profile having a projection engageable with the slot; and
 - wherein the cutting member is positioned in the at least one profile such that the projection is received in the slot.
22. The drill bit of claim 20, wherein the at least one profile extends within the drillable second body portion and the first body portion.

23. The drill bit of claim 20, wherein the at least one profile is machined into the drillable second body portion.
24. The drill bit of claim 20, wherein the first body portion comprises a sleeve.
25. A method of drilling with casing, wherein a drillable drill bit is provided, comprising:
- providing a drill bit support at a lower end of the casing;
 - locating a drillable body portion within the drill bit support;
 - providing a blade receiving member, integral with at least one of the drill bit support and the body portion, the receiving member including a profile;
 - positioning a blade having a mating profile on the receiving member; and
 - using the drill bit to form a wellbore, wherein the profile is adapted to substantially maintain the blade on the blade receiving member during drilling.
26. The method of claim 25, further including configuring the blade with at least a first and a second opposed portion, the first and second portions being positioned, relative to one another, by an included angle of less than ninety degrees.
27. The method of claim 26, wherein providing the blade receiving member comprises machining a preform to provide the profile thereon.
28. The method of claim 26, wherein providing the blade receiving member comprises disposing a preform on at least one of the drill bit support and the body portion to provide the profile thereon.
29. The method of claim 26, further comprising moving at least a portion of the drillable body portion out of the drill bit support.
30. The method of claim 29, further comprising bending the first portion relative to the second to increase the included angle to greater than ninety degrees.

31. A method of completing a wellbore, comprising:
providing an earth removal apparatus at a lower of a drill string, the earth removal apparatus having:
first body portion; and
a drillable portion disposed in the first body portion, the drillable portion including a bore;
forming the wellbore;
blocking the bore from fluid communication;
moving the drillable portion relative the first sleeve portion; and
re-establishing fluid communication between an inner portion of the earth removal apparatus and the wellbore.
32. The method of claim 31, wherein blocking the bore comprises landing a ball in a ball seat disposed in the bore.
33. The method of claim 32, wherein establishing communication comprises pumping the ball through the ball seat.
34. The method of claim 31, further comprising preventing a fluid in the wellbore from entering the drill string.
35. The method of claim 31, further comprising forming a receiving profile on a bottom surface of the drillable portion.
36. The method of claim 35, further comprising providing a blade with a mating profile formed thereon by engaging receiving profile with the mating profile.
37. The method of claim 36, wherein the receiving profile includes a projection formed thereon.

38. A downhole valve, comprising:
a first body portion;
a bore disposed through the first body portion; and
an obstruction member retainer at least partially disposed in the bore,
wherein the obstruction member retainer is adapted to cooperate with an
obstruction member to provide selective fluid communication through the bore.
39. The downhole valve of claim 38, wherein the obstruction member retainer
comprises a seating surface.
40. The downhole valve of claim 39, further comprising a biasing member
disposed inside the bore and below the obstruction member retainer.
41. The downhole valve of claim 40, wherein the obstruction member retainer
further comprises a second seating surface.
42. The downhole valve of claim 41, wherein the obstruction member is
moveable from engagement with the seating surface into engagement with the
second seating surface.
43. The downhole valve of claim 42, wherein the obstruction member is urged
into engagement with the second seating surface by the biasing member.
44. The downhole valve of claim 38, wherein the drillable portion comprises
aluminum.
45. The downhole valve of claim 38, wherein the obstruction member retainer
comprises a flexible material.